

13/D
Part II
3-26-03
E Hale**RECEIVED**
3/21/03**Official****PATENT****IN THE UNITED STATES PATENT AND
TRADEMARK OFFICE**

Applicant:	Edward Behrens et al.	Docket No.:	37373.0400
Serial No.:	09/538,063	Client Ref.:	F5-99966049/ P220020-01
Filing Date:	March 29, 2000	Group Art Unit:	2121
Title:	SYSTEM AND METHOD FOR REMOTELY CONTROLLING AND MONITORING A PLURALITY OF COMPUTER SYSTEMS		

CLEAN COPY OF CLAIMS FOR U.S. SERIAL NO. 09/538,063**In the Claims:**

Claims 1 - 47 (Cancelled)

/ 48. (Currently Amended) A control and monitoring system for a plurality of computers comprising:

- (a) a keyboard-video-mouse switch comprising a plurality of first connectors, each of which is connected to:
- (b) a keyboard-video-mouse cable which accepts unmodified signals and does not require additional devices between said computer and said switch, said cable comprising:
 - (i) a first end comprising a second connector for connecting into said keyboard-video-mouse switch; and
 - (ii) a second end comprising:
 - (1) a third connector for connecting into a keyboard port of a computer,

Serial No. 09/538,063
Docket No. 37373.0400

(2) a fourth connector for connecting into a pointing device port of said computer, and

(3) a fifth connector for connecting into a video port of said computer, whereby said keyboard-video-mouse cable carries keyboard signals, pointing device signals, and red, green, blue, vertical sync, and horizontal sync video signals between said computer and said keyboard-video-mouse switch.

2 49. (Currently Amended) A control and monitoring system for a plurality of computers comprising:

(a) a keyboard-video-mouse switch in a stationary configuration; and

(b) an input and display device comprising:

(i) a base housing comprising a keyboard and pointing device and

(ii) a display housing pivotably connected to the base housing in a configuration such that the display housing at least partially covers and protects the base housing when in a closed position, wherein said input and display device is slidably connected to, and in communication with, said keyboard-video-mouse switch such that said input and display device may be stored or extended to an open position while said keyboard-video-mouse switch remains in a fixed position, thereby reducing the likelihood of a cable being pulled loose by a human operator during an extending or storing operation.

3 50. (Previously Added) The control and monitoring system of claim 49 wherein said input and display device has a maximum vertical height of 1.75 inches when in a stored position.



Serial No. 09/538,063
Docket No. 37373.0400

4 51. (Previously Added) The control and monitoring system of claim 49 further comprising an arm comprising a plurality of hinges and a first end joined to said input and display device and a second end joined to said keyboard-video-mouse switch, wherein cables connected between said input and display device and said keyboard-video-mouse switch may be fastened to said arm to minimize the possibility of cable pinching as a human operator slides the input and display device mounted in a computer equipment rack from a storage position to an open position.

Sub E1 5 52. (Previously Added) The control and monitoring system of claim 49, wherein said second connector comprises a fifteen position D-sub connector and each of said plurality of first connectors comprises a fifteen position D-sub connector.

6 53. (Previously Added) The control and monitoring system of claim 49, wherein said second connector comprises a fifteen position DB 15 connector and each of said plurality of first connectors comprises a DB 15 connector.

7 54. (Previously Added) The control and monitoring system of claim 49, wherein the plurality of first connectors comprises at most sixteen connectors.

8 55. (Currently Amended) A control and monitoring system comprising:

(a) a plurality of first processors for processing keyboard and pointing device signals from a plurality of computers, wherein each first processor interfaces to not more than two computers; and

(b) a second processor in communication with a character input device and a pointing device and in communication with each of said plurality of first processors, for processing keyboard signals from said character input device and pointing device signals from said pointing device to each of said plurality of first processors; and

Serial No. 09/538,063
Docket No. 37373.0400

(c) a first programmable logic device in communication with said second processor; and

(d) a non-volatile random access memory electrically in communication with said second processor and in communication with said first programmable logic device; and

(e) a video driver in communication with a second programmable logic device and in communication with said second processor, for displaying an onscreen menu or a set of video signals from each of said plurality of computers; and

(f) a video switch in communication with said second processor, for receiving a plurality of red, green, blue, horizontal and vertical sync video signals from each of said plurality of computers and sending each of said plurality of red, green, blue, horizontal and vertical sync video signals to said video driver.

56. (Previously Added) The system of claim 55 wherein said video driver means comprises:

(a) an on screen graphics display circuit, for generating text and graphics for an on screen menu; and

(b) an on screen graphics overlay circuit coupled to said on screen graphics display circuit and said video switch; and

(c) a plurality of first op-amp amplifying circuits coupled to said on screen graphics overlay circuit, one each for each of a plurality of red video signals from said on screen graphics overlay circuit; and

Serial No. 09/538,063
Docket No. 37373.0400

(d) a plurality of second op-amp amplifying circuits coupled to said on screen graphics overlay circuit, one each for each of a plurality of green video signals from said on screen graphics overlay circuit; and

(e) a plurality of third op-amp amplifying circuits coupled to said on screen graphics overlay circuit, one each for each of a plurality of blue video signals from said on screen graphics overlay circuit; and

(f) a first signal splitting circuit coupled to said video switch, for passing a plurality of vertical sync signals from said programmable logic means; and

(g) a second signal splitting circuit coupled to said video switch means, for passing a plurality of horizontal sync signals from said logic means,

whereby a plurality of video display devices may be sent video signals to drive said plurality of video display devices.

10 57. (Previously Added) The system of claim ~~55~~ wherein said each of said plurality of first processors comprises a microcontroller.

11 58. (Previously Added) The system of claim ~~55~~ wherein said second processor comprises a microcontroller.

12 59. (Previously Added) The system of claim ~~55~~ further comprising:

(a) a plurality of first connectors connected to said video driver, for a plurality of video display devices viewable by a human operator; and

(b) a plurality of second connectors connected to said second processor, each of said plurality of third connectors may be connected to one of a plurality of character input devices which said human operator can use to send a series of characters to said second processor means; and

Serial No. 09/538,063
Docket No. 37373.0400

(c) a plurality of fourth connectors connected to said second processor, whereby each of said plurality of fourth connectors may be connected to one of a plurality of pointing devices which said operator can manipulate to point to any location on one of said plurality of video display means.

13 60. (Previously Added) The system of claim 55 further comprising:

(a) a third processor electrically connected to said first processor, for uploading and downloading programming and data and processing commands from a remote computer; and

(b) said second programmable logic device electrically connected to said third processor, said video switch, and said video driver; and

(c) a communications interface connected to said third processor, for providing commands, programming, and data to said third processor from said remote computer,

whereby said remote computer may send commands and upload and download programming and data to said third processor.

sub 61. (Previously Added) The system of claim 60 wherein said first programmable logic device comprises a Complex Programmable Logic Device; and said second programmable logic device comprises a Complex Programmable Logic Device.

15 62. (Previously Added) The system of claim 60 wherein said communications interface comprises:

(a) a Transmitter/Receiver connected to said third processor for receiving data and transmitting data between said third processor and a remote computer,

Serial No. 09/538,063
Docket No. 37373.0400

whereby said third processor receives commands, programming, and data from said remote computer and transmits programming and data to said remote computer.

16 63. (Previously Added) A control and monitoring system for a plurality of computers comprising:

- (a) a first keyboard-video-mouse switch; and
- (b) at least one second keyboard-video-mouse switch;
- (c) a first Transceiver coupled to said first keyboard-video-mouse switch for transmitting and receiving differential data signals between said first keyboard-video-mouse switch and said second keyboard-video-mouse switch;
- (d) a second Transceiver coupled to said first keyboard-video-mouse switch for receiving and transmitting differential data signals between said first keyboard-video-mouse switch and said second keyboard-video-mouse switch;
- (e) a third Transceiver coupled to said first keyboard-video-mouse switch for asserting and receiving differential clock signals between said first keyboard-video-mouse switch and said second keyboard-video-mouse switch;
- (f) a fourth Transceiver coupled to said second keyboard-video-mouse switch for transmitting and receiving differential data signals between said second keyboard-video-mouse switch and said first keyboard-video-mouse switch;
- (g) a fifth Transceiver coupled to said second keyboard-video-mouse switch for receiving and transmitting differential data signals between said second keyboard-video-mouse switch and said first keyboard-video-mouse switch;

Serial No. 09/538,063
Docket No. 37373.0400

(h) a sixth Transceiver coupled to said second keyboard-video-mouse switch for asserting and receiving differential clock signals between said second keyboard-video-mouse switch and said first keyboard-video-mouse switch; and

(i) a daisy chain cable comprising:

(1) a first end connected to said first keyboard-video-mouse switch,

and

(2) a second end connected to one of said second keyboard-video-mouse switch on the other end,

wherein a plurality of control and monitoring systems may communicate with each other.

17. ¹⁶ (Previously Added) The system of claim 63 wherein said daisy chain cable comprises:

(a) a first head comprising a connector, for connecting into said first keyboard-video-mouse switch; and

(b) a second head in comprising a connector, for connecting a terminator or a communications cable for a computer; and

(c) a third head comprising a connector, for connecting into said second keyboard-video-mouse switch; and

(d) a fourth head comprising a connector, for connecting into said first connector of another daisy chain cable or a terminator,

wherein said first head is connected to said second head; and said second head is connected to said third head; and said third head is connected to said fourth head;

Serial No. 09/538,063
Docket No. 37373.0400

and whereby a plurality of control and monitoring systems may be daisy chained together.

Claims 65-71 (Cancelled)

